

Appln. No. 10/643,756
Amdt. dated March 30, 2007
Reply to Office Action of October 31, 2006

PATENT

Amendments to the Drawings:

The attached sheets of drawings includes changes to Figs. 1, 2, and 4. These sheets, which include Figs. 1, 2, 3, and 4 replaces the original sheets including Fig. 1, 2, 3, and 4.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

REMARKS/ARGUMENTS

Claims 1-19 are pending and stand rejected. Figures 1, 2 and 4 are amended to overcome the objections raised by the Examiner. Likewise, the specification and the claims have been amended to overcome the objections noted by the Examiner.

Claim 1 is also amended to recite, in part, "transmitting only real components of each pair of associated symbols as an input stream on a first one of the at least two transmit antennas; and transmitting only imaginary components of each pair of associated symbols as a second input stream on a second one of the at least two transmit antennas". The amendment to claim 1 clarifies that antenna 1 is used to transmit only the real components of a pair of symbols, whereas antenna 2 is used to transmit only the imaginary components of the same pair of symbols.

Claims 1-3, 6, 8, 9-11, 14-17 and 19 stand rejected under 35 USC 103(a) as being unpatentable over Applicant Admitted Prior Art in view of U.S. Patent No. 4,891,823 to Cole (hereinafter "Cole") and further in view of U.S. Patent Application Publication No. 2002/0126648 to Kuchi et al. (hereinafter "Kuchi"). Claims 7 and 18 stand rejected under 35 USC 103(a) as being unpatentable over Applicant Admitted Prior Art in view of U.S. Patent No. Cole and further in view of Kuchi and U.S. Patent No. 6,377,631 to Raleigh (hereinafter "Raleigh"). In view of the foregoing amendment and following remarks, Applicants respectfully traverse these rejections for at least the following reasons.

As pointed out correctly by the Examiner, Applicant Admitted Prior Art does not disclose transmitting the real parts of two symbols on antenna 1 and the imaginary part of two symbols on antenna 2. Likewise, there is no disclosure in Cole of transmitting the real parts of two symbols on antenna 1 and the imaginary part of two symbols on antenna 2. Applicants submit that there is also no disclosure, in Kuchi of "transmitting only real components of each pair of associated symbols as an input stream on a first one of the at least two transmit antennas; and transmitting only imaginary components of each pair of associated symbols as a second input stream on a second one of the at least two transmit antennas", as recited, in part, in claim 1.

In column, paragraph 5, Kuchi states:

"Under the Alamouti transmit diversity scheme, in a time slot having a duration of two symbol periods, a first antenna transmits a symbol z_1 during the first symbol period and a symbol $-z_2^*$ during the second symbol period, and a second antenna transmits a symbol z_2 during the first symbol period and a symbol z_1^* during the second symbol period. Here, " a^* " denotes the complex conjugate of " a "; i.e., if $a=x+yj$, then $a^*=x-yj$."

In other words, Kuchi transmits both real and imaginary components of a symbol over a first antenna, and the complex conjugate of the same symbol, which also includes both real and imaginary components over a second antenna. Hence in Kuchi, both antennas are used to transmit both the real as well as imaginary components of symbols. Accordingly, Kuchi, whether taken alone, or in combination with Applicant Admitted Prior Art and Cole, fails to disclose "transmitting only real components of each pair of associated symbols as an input stream on a first one of the at least two transmit antennas; and transmitting only imaginary components of each pair of associated symbols as a second input stream on a second one of the at least two transmit antennas". Claim 1 and its dependent claims 2-8 are thus allowable over Applicant Admitted Prior Art in view of Cole and further in view of Kuchi. Claim 9 and its dependent claim 10-19 are allowable for at least the same reasons as is claim 1.


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In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (650) 752-2424.

Respectfully submitted,

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Attachments
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